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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,182

06/01/2006

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CU-4848 RJS

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26530 7590 03/03/2011
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EXAMINER

SONG, MATTHEW J

ART UNIT

PAPER NUMBER

1714

MAIL DATE

DELIVERY MODE

03/03/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,182	Applicant(s) TESHIMA ET AL.	
	Examiner MATTHEW J. SONG	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29,30 and 33-42 is/are pending in the application.
- 4a) Of the above claim(s) 33-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/22/2010 has been entered.

Terminal Disclaimer

2. The terminal disclaimer filed on 7/22/2010 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Application 10/589,635 has been reviewed and is accepted. The terminal disclaimer has been recorded. The double patenting rejection has been withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keig et al (US 3,655,415) in view of JP 40-26525 with abstract from IDS filed 8/29/2006.

Keig et al teaches an artificial corundum crystal wherein a coloring component is added into the artificial corundum crystal wherein an adding amount of the oxide of the coloring component to alumina is up to 0.5 % by weight for chromium oxide, 1 to about 1.5% by weight for vanadium oxide, 1 to 3 % by weight for titania, or 0.9 to 1.5% by weight for ferric oxide (col 12, ln 1-75), which overlaps the claimed range. Overlapping ranges are prima facie obvious (MPEP 2144.05).

Keig et al teaches a boule can be grown with any desired C-axis orientation, growing the boule with its C-axis at other orientation, and cabochons cut from any section of the boule as desired (col 10, ln 25-75). Keig et al does not teach the orientation of the crystal. In the absence of unexpected results, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Keig et al by conducting routine experimentation the optimum operable orientation of the corundum crystal to create the desired properties and to increase growth as orientation is known to effect growth.

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Keig et al does not teach a basic shape of the artificial corundum crystal is hexagonally dipyramidal shape.

In a method of forming corundum monocrystal, JP 40-26525 teaches a colored corundum monocrystal wherein the shape and hue thereof are adjusted as desired (Abstract) and hexagonally dipyramidal shape (Fig 2).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Keig et al by adjusting the shape of the crystal to be hexagonally dipyramidal shape, as taught by JP 40-26525, because changes in shape are prima facie obvious (MPEP 2144.04) and to produce the shape desired by JP 40-26525.

5. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 40-26525 ('525)with abstract from IDS filed 8/29/200 in view of Keig et al (US 3,655,415).

JP 40-26525 teaches a colored corundum monocrystal wherein the shape and hue thereof are adjusted as desired (Abstract) and hexagonally dipyramidal shape (Fig 2).

'525 does not teach adding amount of the oxide of the coloring componet is 1% or less by weight wherein the color component is chromium, an iron and a titanium, a nickel, vanadium, or a cobalt, or the claimed crystal face.

Keig et al teaches an artificial corundum crystal wherein a coloring component is added into the artificial corundum crystal wherein an adding amount of the oxide of the coloring component to alumina is up to 0.5 % by weight for chromium oxide, 1 to about 1.5% by weight for vandium oxide, 1 to 3 % by weight for titania, or 0.9 to 1.5% by weight for ferric oxide (col

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12, ln 1-75), which overlaps the claimed range. Overlapping ranges are prima facie obvious (MPEP 2144.05).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify '525 by adding the coloring component in the amount taught by Keig et al, to produce a crystal with a color desired by Keig et al.

As to the crystal orientation, the combination of '525 and Keig et al teaches a boule can be grown with any desired C-axis orientation, growing the boule with its C-axis at other orientation, and cabochons cut from any section of the boule as desired (col 10, ln 25-75). Keig et al does not teach the orientation of the crystal. In the absence of unexpected results, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of '525 and Keig et al by conducting routine experimentation the optimum operable orientation of the corundum crystal to create the desired properties and to increase growth as orientation is known to effect growth.

Response to Arguments

6. Applicant's arguments with respect to claim 29-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. SONG whose telephone number is (571)272-1468. The examiner can normally be reached on M-F 11:00-7:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on 571-272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew J Song
Primary Examiner
Art Unit 1714

/Matthew J Song/
Primary Examiner, Art Unit 1714